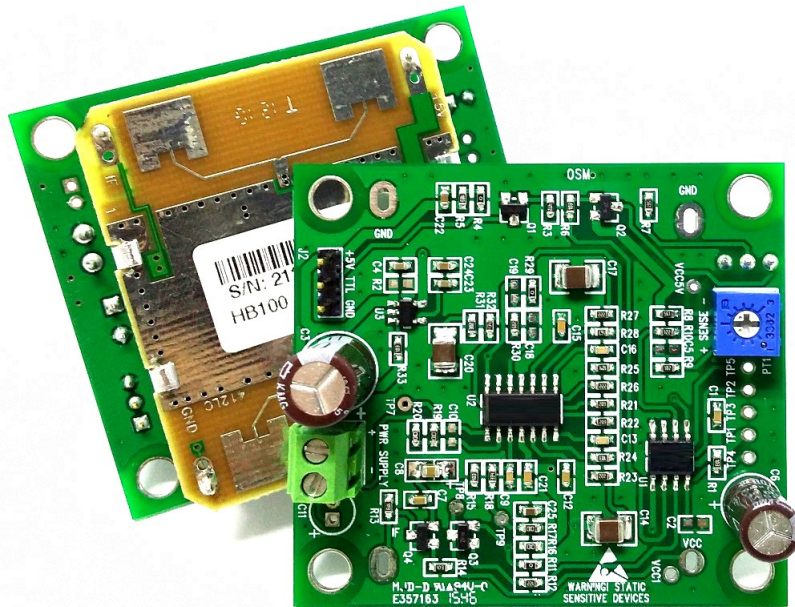


MP120

X-Band Motion Detector



Features:

- Small profile
- Pulse mode operation
- Adjustable sensitivity
- Detection alert by an LED indicator
- Comes with TTL output

Applications:

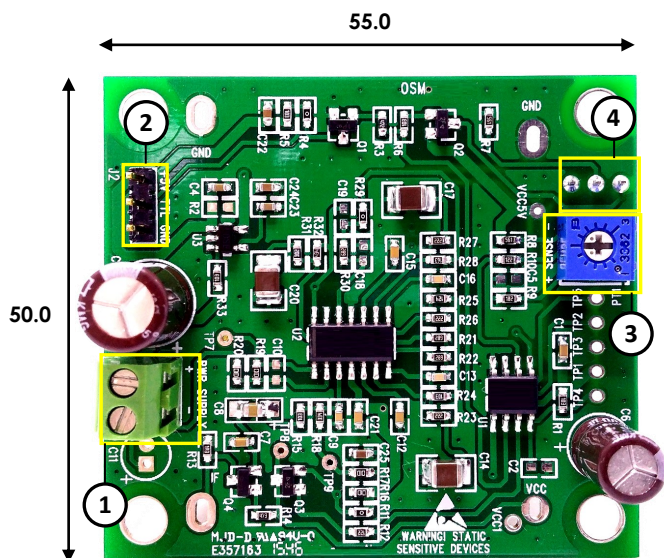
- Evaluation of **AgilSense** HB-series modules
- Motion detection
- Lighting control
- Security Alarm

Description

The MP120 motion detector provides an easy and low cost method to familiarize with various **AgilSense** X-Band sensor modules¹. The sensor module is operated in pulse mode when used with the MP120, and is able to detect moving targets at speeds of up to 5 Km/h.

The MP120's sensitivity can be adjusted via an on-board trimmer and has a TTL output for triggering or activating compatible external devices.

Connector Interface & Detection Indicator



I. All dimensions are in mm.

II. Mounting hole size at each corner of PCB is $\phi 4$ mm.

Ref.	Description	Remarks
1	DC supply input , V_{IN}	+5V
2	TTL output	High: +5V Low: GND
3	Sensitivity trimmer	Max. level: 4.2V (Lowest sensitivity) Min. level: 2.7V (Highest sensitivity)
4	LED status indicator (at underside)	a. Startup - Red & Green toggle b. Detection - Red ON c. No detection - Green ON

¹ MP120 supports the following **AgilSense** microwave sensor modules:

- ⇒ HB100
- ⇒ HB490, HB590-FR
- ⇒ HB7 series: HB170, HB570
- ⇒ HB9 series: HB190, HB590

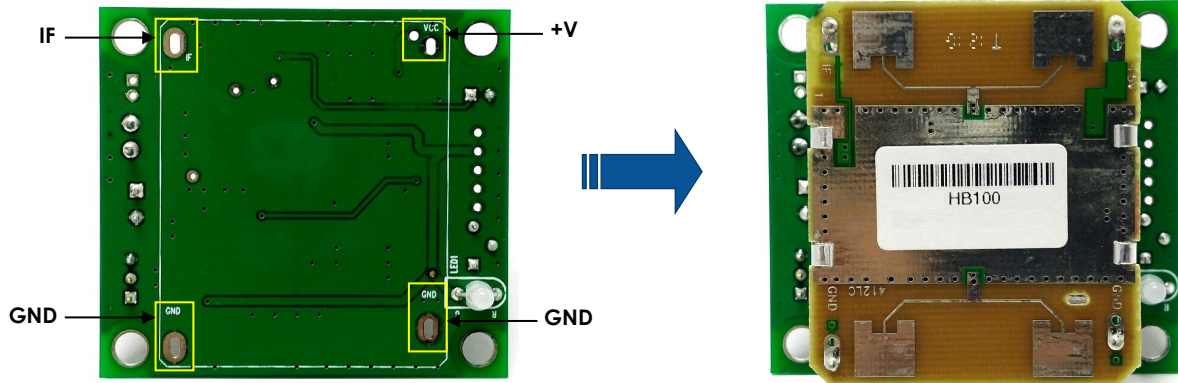
² MP120 does not include the sensor module.

³ **CAUTION: ELECTROSTATIC SENSITIVE DEVICE.**

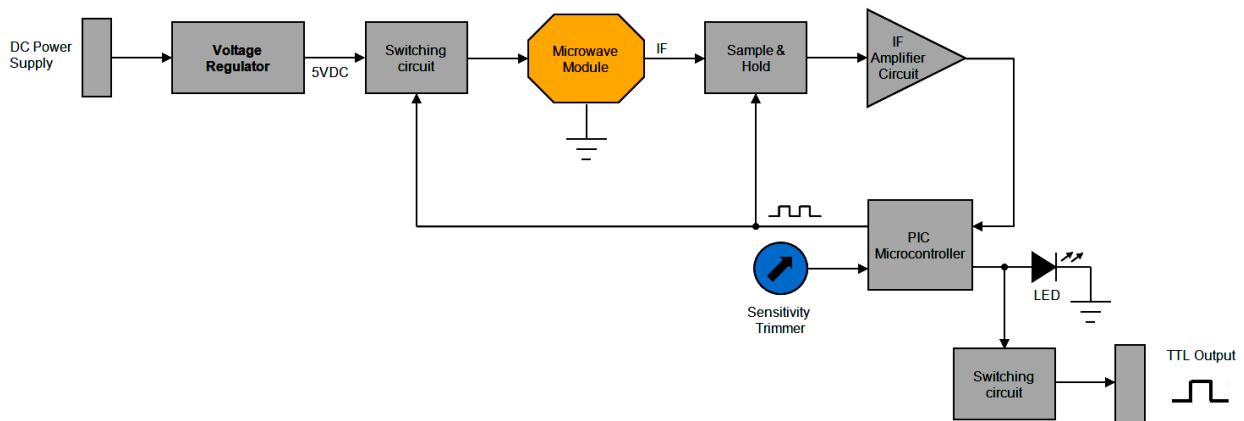
Observe precautions for handling and storage.



Sensor Module Interface



Circuit Block Diagram



Technical Specifications

Unless noted otherwise, the specifications are measured in pulse mode, $V_{IN} = +5.0 V_{DC}$ at $25^{\circ}C$.

Parameter	Remarks	Min	Typical	Max	Units
Operating Conditions					
Supply voltage, V_{IN}		5.0		5.5	V_{DC}
Current consumption			16.5		mA
Operating temperature		-40		125	$^{\circ}C$
Pulse Scheme					
Pulse frequency			2		KHz
Duty cycle			5		%
IF Amplifier					
Gain			70		dB
Low pass filter cut-off frequency (-3dB)			120		Hz
Noise					
Bandwidth = 0 - 1000 Hz			1.6		$\mu V/\sqrt{Hz}$

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